

# **10 kHz – 1.01 GHz AM/FM SIGNAL GENERATOR 2022E**

Part No. 52022-950J

(Part of Signal Generator Set 52022-599L)

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Printed in the UK

Manual part no. 46881-890E  
Print code : A-9/88

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## ASSOCIATED PUBLICATIONS

Service Manual, H 52022-950J Vol. 2	Part No.
Operating Summary card	46881-891U
	46881-892Y

### FIRMWARE STATUS

The operating firmware for this instrument is contained in EPROMs fitted inside the unit. The firmware version number is shown in the instrument display during the switch-on sequence.

This manual relates to instruments with firmware version no. 001

## PREFACE

### WARNINGS, CAUTIONS AND NOTES

These terms have specific meanings in this manual:-




**WARNINGS** contain information to prevent personal injury.

**CAUTIONS** contain information to prevent damage to the equipment.

**Notes** contain important general information.

### HAZARD SYMBOLS

The meaning of hazard symbols appearing on the equipment is as follows:-

Symbol	Nature of hazard	Reference in manual
	Dangerous voltages	Page iv
	Beryllia	Page iv
	Static sensitive components	Page iv

### MANUAL AMENDMENT STATUS

Each page in this manual bears the date of its original issue or, if it has been amended, the date and status number of the amendment. Any changes subsequent to the latest amendment status are included on Manual Change sheets coded C1, C2 etc at front of the manual.















Internal modulation oscillator frequency:	400 Hz, 1 kHz or 5 kHz (see Modulation Oscillator).
Internal modulation oscillator distortion:	Less than 1% total harmonic distortion.
External modulation input:	Input level nominally 1 V into 100 k $\Omega$ – see under Frequency modulation and Amplitude modulation.
Auxiliary modulation input:	Sensitivity nominally 20% of the modulation depth/deviation set for a 1 V PD input.  Input impedance 600 $\Omega$ nominal.
External frequency standard input:	A rear panel BNC socket accepts a 10 MHz signal of at least 1 V (max. 2 V) RMS into a 100 $\Omega$ nominal impedance. A 5 MHz or 1 MHz signal can be accepted by changing an internal link.
Alternative outputs:	A blanked hole is provided so that the user can fit the RF output socket to the rear panel for system use etc.

### Keyboard and display

Main and secondary keyboard functions:	These are described in Chap. 3, Operation. All instrument settings are controlled by the front panel keyboard.
Display:	Liquid crystal display provides simultaneous readout of carrier frequency, modulation and RF level.
Carrier frequency:	7-digit with annunciators to show frequency units, external frequency standard, GPIB service requests, remote operation selection and instrument addressed.
Modulation:	3-digit with annunciators to show modulation units, AM, FM, $\Phi$ M, modulation off and external modulation selected.
RF level:	4-digit with annunciators to show RF level units, RF output off, reverse power trip operated.
Modulation oscillator frequency:	3 LEDs show the currently selected modulation frequency.





## GENERAL INFORMATION

	Part no.
GPIB lead assembly	43129-189U
Screened GPIB lead assembly (for enhanced RFI performance)	46883-962H
GPIB IEEE/IEC connector adapter	46883-408K
RF coaxial cable (N to N type)	54311-095C
Attenuator 6 dB, 500 MHz, BNC connectors	44425-002D
Attenuator 20 dB, 20 W, 1 GHz	54431-021B
Attenuator 20 dB, 1 GHz	54431-011D
Termination, 50 $\Omega$	54422-011A

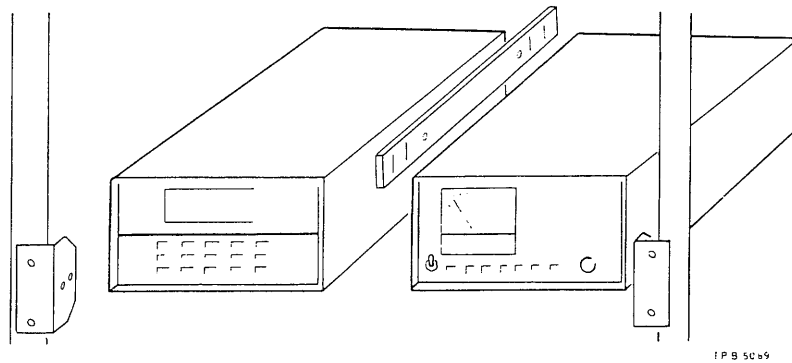








For rack mounting the 2022E side-by-side with another instrument of similar modular construction, a double unit rack mounting kit 46883-716B is available. Fixings for joining the two instruments together and attaching both to the rack are shown in Fig. 2-5. For detailed information on kit parts, assembly etc., refer to the fitting instructions supplied with each rack mounting kit.



*Fig. 2-5 Twinned unit rack mounting*

If rear connection is required in a rack mounted system, the RF OUTPUT socket can be removed and repositioned on the rear panel – see the Service Manual for details.





















































## OPERATION

If a local lock out command has been given the RET'N key operation will be ignored.

### Notes ...

- (1) INT/EXT frequency standard selection, the GPIB address and instrument stores are unaffected by the SDC and DCL commands.
- (2) Switching on clears the 2022E to the same state as SDC or DCL unless 'Recall STORE 10 at switch on', conditions apply.









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